

1. A method of encapsulating a substrate based electronic package, comprising the steps of:

5 providing a substrate having a first surface and a second surface, wherein said first surface has a device region and a gate region, said gate region being external to said device region;

providing conductive traces formed on said first surface of said substrate;

providing a first number of electronic devices attached to said first surface of said substrate within said device region of said substrate;

providing electrical connections between said electronic devices and said conductive traces;

providing input/output connections formed on said substrate;

providing electrical connections between said conductive traces and said input/output connections;

attaching a barrier material to said gate region of said substrate;

20 forming encapsulation material over said device region of said substrate, thereby covering said first number of electronic devices, and a part of said barrier material attached to said gate region of said substrate, wherein said barrier material and said encapsulation material are chosen
25 so that the adhesion of said barrier material to said substrate is less than the adhesion of said barrier material

2047143 "50934040

to said encapsulation material;

curing said encapsulation material; and

removing that part of said encapsulation material
formed on said barrier material and said barrier material
from said substrate.

2. The method of claim 1 wherein said input/output
connections comprise a ball grid array formed on said second
surface of said substrate.

3. The method of claim 1 wherein some of said conductive
traces are formed in said gate region of said first surface
of said substrate.

4. The method of claim 1 wherein said electrical connections
between said electronic devices and said conductive traces
comprise wire bonds.

5. The method of claim 1 wherein said first number of
electronic devices is one electronic device.

6. The method of claim 1 wherein said barrier material is
polyimide tape.

7. The method of claim 1 wherein said barrier material is
high temperature plastic.

8. The method of claim 1 wherein said encapsulation material is an encapsulating mold compound.

9. The method of claim 1 wherein that part of said encapsulation material formed on said barrier material is a mold runner. *A*

10. The method of claim 1 wherein said forming encapsulation material over said device region of said substrate comprises injection molding using a two piece mold.

11. A disposable mold runner gate, comprising:

a substrate having a first surface and a second surface, wherein said first surface has a device region and a gate region, said gate region being external to said device region;

conductive traces formed on said first surface of said substrate;

a first number of electronic devices attached to said first surface of said substrate within said device region of said substrate;

electrical connections between said electronic devices and said conductive traces;

input/output connections formed on said substrate;

electrical connections between said conductive traces and said input/output connections;

barrier material attached to said gate region of said substrate;

encapsulation material formed over a part of said barrier material attached to said gate region of said substrate, thereby forming a mold runner, wherein said barrier material and said encapsulation material are chosen so that the adhesion of said barrier material to said substrate is less than the adhesion of said barrier material to said encapsulation material; and

a cover of said encapsulation material formed over said device region of said substrate covering said first number of electronic devices.

12. The encapsulated electronic package of claim 11 wherein said input/output connections comprise a ball grid array formed on said second surface of said substrate.

13. The encapsulated electronic package of claim 11 wherein some of said conductive traces are formed in said gate region of said first surface of said substrate.

204TFO" 509E400T 25

14. The encapsulated electronic package of claim 11 wherein said electrical connections between said electronic devices and said conductive traces comprise wire bonds.
15. The encapsulated electronic package of claim 11 wherein said first number of electronic devices is one electronic device.
16. The encapsulated electronic package of claim 11 wherein said electronic devices are integrated circuit elements.
17. The encapsulated electronic package of claim 11 wherein said barrier material is polyimide tape.
18. The encapsulated electronic package of claim 11 wherein said barrier material is high temperature plastic.
19. The encapsulated electronic package of claim 11 wherein said encapsulation material is an encapsulating mold compound.

20443605 011402